Amendment to the Claims

This listing of claims will replace all prior versions and listing of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of creating a high resistivity conductive material on a target, comprising:

directing a focused ion beam toward an impact point on the target; and

directing one or more precursor gases toward the impact point, the ion beam causing the precursor gas to decompose and thereby deposit a high resistivity conductive material onto the target, wherein the one or more precursor gasses include at least one conductive and at least one non-conductive precursor.

2. (Previously Presented) A method of creating a high resistivity conductive material on a target, comprising:

directing a focused ion beam toward an impact point on the target; and

directing one or more precursor gases toward the impact point, the ion beam causing the precursor gas to decompose and thereby deposit a high resistivity conductive material onto the target, the one or more precursor gases comprising a first precursor compound that when applied alone to a target in the presence of an ion beam decomposes in the presence of the ion beam to produce a conductive material and a second precursor compound that when applied alone to a target in the presence of an ion beam decomposes in the presence of the ion beam to product an insulating material.

3. (Previously Presented) The method of claim 1 in which the high resistivity conductive material has a resistivity of between about $5x10^4$ ohms per square and about $7x10^4$ ohms per square.

4. (Original) The method of claim 2 in which the first precursor compound includes an organometallic compound.

5. (Original) The method of claim 4 in which the first precursor compound includes a platinum or tungsten organometallic compound.

6. (Currently Amended) [~~The method of claim 2 in which~~] A method of creating a high resistivity conductive material on a target, comprising:

directing a focused ion beam toward an impact point on the target; and

directing one or more precursor gases toward the impact point, the ion beam causing the precursor gas to decompose and thereby deposit a high resistivity conductive material onto the target, the one or more precursor gases comprising a first precursor compound that when applied alone to a target in the presence of an ion beam decomposes in the presence of the ion beam to produce a conductive material and a second precursor compound that when applied alone to a target in the presence of an ion beam decomposes in the presence of the ion beam to produce an insulating material, wherein the second precursor compound deposits a compound containing silicon.

7. (Original) The method of claim 6 in which the second precursor compound includes a siloxane compound.

8. (Original) The method of claim 6 in which the second precursor compound includes OMCTS or TMCTS.

9. (Previously Presented) The method of claim 1 in which the high resistivity conductive material deposited on the target forms a structure and in which the structure has a resistance of less than 900 megohms.

10. (Previously Presented) The method of claim 1 in which the high resistivity conductive material deposited on the target forms a structure and in which the structure has a resistance of between one megohm and 100 megohms.

11. (Previously Presented) The method of claim 1 in which directing a focused ion beam onto the target includes directing the focused ion beam to deposit a high resistivity conductive structure having a length of less than 500 μm and a resistance of greater than 0.5 megohm.

12. (Currently Amended) A method for creating a high resistance conductive structure on a target, comprising the steps of:

providing a first precursor compound and a second precursor compound in the presence of a focused ion beam, wherein said first precursor compound is a conductive precursor and said second precursor compound is a non-conductive precursor; and

causing the deposition of a structure onto the target wherein the presence of the first and second precursor compounds cause the conductive structure to exhibit a high resistivity.

13. (Original) The method of claim 12, wherein the resistance of the structure is controllable by controlling the length or width of the structure.

14. (Original) The method of claim 12, wherein the rate of deposition is controllable according to the relative concentrations of the first and second precursor compounds.

15. (Currently Amended) [~~The method of claim 12~~] A method for creating a high resistance conductive structure on a target, comprising the steps of:

providing a first precursor compound and a second precursor compound in the presence of a focused ion beam; and

causing the deposition of a structure onto the target wherein the presence of the first and second precursor compounds cause the conductive structure to exhibit a high resistivity, wherein the high resistance structure exhibits an interface layer between a conductive layer and a non-conductive layer.

16. (Original) The method of claim 12, wherein the high resistance structure exhibits a linear voltage-current relationship over a voltage range of greater than 10 volts.

17. (Previously Presented) The method of claim 12 in which the structure has a resistance as measured by both a two point probe method and a four point probe method of between one megohm and 900 megohms.

18. (Previously Presented) The method of claim 12 in which the structure has a resistance as measured by both a two point probe method and a four point probe method of between one megohm and 100 megohms.

Claims 19-30 (Cancelled)

31. (Previously Presented) The method of claim 2 in which directing one or more precursor gases toward the impact point includes simultaneously directing the first precursor compound and the second precursor compound toward the impact point.

32. (Currently Amended) [~~The method of claim 2 in which~~] A method of creating a high resistivity conductive material on a target, comprising:

directing a focused ion beam toward an impact point on the target; and

directing one or more precursor gases toward the impact point, the ion beam causing the precursor gas to decompose and thereby deposit a high resistivity conductive material onto the target, the one or more precursor gases comprising a first precursor compound that when applied alone to a target in the presence of an ion beam decomposes in the presence of the ion beam to produce a conductive material and a second precursor compound that when applied alone to a target in the presence of an ion beam decomposes in the presence of the ion beam to product an insulating material, wherein directing one or more precursor gases toward the impact point includes alternatively directing the first precursor compound and the second precursor compound toward the impact point.

33. (Previously Presented) The method of claim 12 wherein providing a first precursor compound and a second precursor compound in the presence of a focused ion beam includes providing a first precursor compound and a second precursor simultaneously.

34. (Previously Presented) The method of claim 12, wherein providing a first precursor compound and a second precursor compound includes providing a first precursor compound from a first precursor outlet and a second precursor compound from a second precursor outlet.

35. (Previously Presented) The method of claim 12, wherein providing a first precursor compound and a second precursor compound includes providing a first precursor compound and a second precursor compound from a single precursor outlet.

36. (Previously Presented) The method of claim 12, wherein providing a first precursor compound and a second precursor compound in the presence of a focused ion beam includes alternately providing a first precursor compound and a second precursor.